

GEOSCIENCE NEWSLETTER

Number One April, 2005

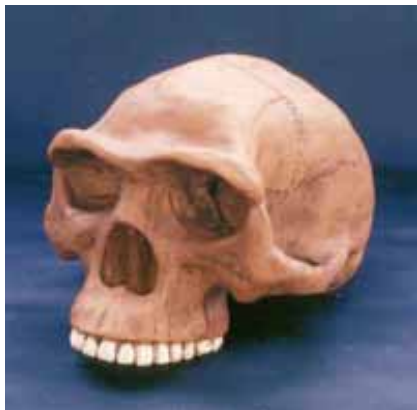
GEOSCIENCE WEBSITE

Are you looking for an article from the latest *Origins* journal? Or for a picture from a GRI Field Conference? Or for recent news in science and origins? You can find all these things and more on the GRI website. The URL is: <http://www.grisda.org/>.

SCIENCE NEWS ON THE WEB

One of the most popular features of the GRI website is a list of links to recent science news that pertains in some way to origins. The URL is: <http://www.grisda.org/links/WHATSOEVER.htm>.

An example is the recent report of fossil pygmy humans on the island of Flores in Indonesia. The human skeleton is of an adult female about 1 meter in height, with an estimated weight of around 20-25 kg, and a cranial capacity of about 380 cm³. The brain size is smaller than a chimp, and as small as any known australopithecine. The skull has several features that link it to *Homo erectus* (see photo).



Replica of *Homo erectus* skull. The fossil pygmy from Indonesia has features that link it with *Homo erectus*, although the pygmy is much smaller.

The News Archive has links to news stories from previous months, beginning with 1999. Below the archived list you can find the news links for the current month. Specific links to the Indonesian pygmy can be found in the lists dated 29 October 2004, 16 November 2004, 28 November 2004, 17 December 2004, and 24 February 2005. For further comment see <http://www.grisda.org/origins/56032.pdf>.

RESEARCH REPORTS

Geochemistry of igneous rocks



Ben Clausen examining igneous rocks.

Clausen BL, et al. 2004. Differentiation and contamination in the Northern Peninsular Ranges batholith, Southern California. *GSA Abstracts with Programs* 36(5):359. See the abstract at http://gsa.confex.com/gsa/2004AM/finalprogram/abstract_76566.htm

The geochemistry of granitic rocks in southern California varies depending on their history of melting, crystallization, and contamination.

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Preservation of fossil whales



Research team with whale.

Brand LR, Esperante R, et al. 2004. Fossil whale preservation implies high diatom accumulation rate in the Miocene-Pliocene Pisco Formation of Peru. *Geology* 32:165-168. <http://www.gsjournals.org/gsaonline/?request=get-abstract&doi=10.1130%2FG20079.1>

Hundreds of well-preserved baleen whales are buried in fine-grained sediments on the southern coastal desert of Peru. The condition of the fossil whales indicates exceptionally rapid deposition of diatoms, mud and sand.

FAITH & SCIENCE CONFERENCE PAPERS

Several papers from the recent Faith and Science Conference in Denver, along with links to reports of the meeting, can be accessed at <http://www.grisda.org/2004-IFSC/index.htm>.



Participants at the Garden of the Gods in Colorado Springs.

NEW GRI DONATION



Portion of Velociraptor skeleton

A skeleton of a *Velociraptor* dinosaur is now mounted in the lobby of the GRI building. *Velociraptor* is a deer-sized predatory dinosaur made famous by the movie *Jurassic Park*. The fiberglass skeleton was molded from original bones discovered in China, and was donated in memory of Mary M. White.

We have ideas for more displays, and additional donations are welcome.

GEOSCIENCE CALENDAR

June 27-July 9

GRI will have a booth at the General Conference Session in St. Louis. Please come by to view the exhibits, meet the staff, and discuss issues in origins.

July 11-15

Earn College Credit for a course on origins at Columbia Union College, with Timothy Standish. See www.grisda.org/tstandish/cuc/description.htm.

August 2006

The work of BRISCO will be divided into two parts. BRI will organize BRISCO as a working committee, focusing on preparing papers for publication. GRI will organize continuing discussions, tentatively under the name GRI Council on Origins (GRICO). The first meeting is scheduled for August, 2006.



Origins # 56 available online

<http://www.grisda.org/origins/ndx-yr.htm#56>

SCIENCE NEWS

Petrification of Wood: How long does it take?

Akahane J, et al. 2004. *Rapid wood silicification in hot spring water: an explanation of silicification of wood during the Earth's history*. *Sedimentary Geology* 169:219-228.

Summary. Alder wood has been observed to become petrified in less than 36 years under natural conditions. The wood had fallen into an overflow stream from Tateyama Hot Spring in central Japan. Water from the hot spring (70°C, pH 3) has a high silica content and silica granules are deposited in spaces in the wood as the water seeps through it. Pieces of wood placed in the stream were nearly 40% petrified in



Petrified wood from Arizona. Bark area is at the left of the photo. Colors are due to mineral impurities in the water as the wood was silicified.

seven years. Wood petrified in hot spring water was compared with Miocene fossil wood, and the two samples showed the same features, indicating the same process was involved in their petrification. Most petrified wood in the fossil record is associated with volcanic sediments, and was probably produced in a similar manner, as hot ground water laden with volcanic ash permeated the wood.

Comment. This report confirms previous suggestions that petrification of wood might not take as long as had once been thought. Rapid mineralization is consistent with the excellent preservational state of some petrified wood. For additional comment, see www.grisda.org/origins/05113.htm; www.icr.org/pubs/imp/pdf/imp-379.pdf.



T. rex model from Dinosaur Park in Ogden, Utah. Photo by R. Esperante.

Dinosaur Bone

Schweitzer MH, Wittmeyer JL, Horner JR, Toporski JK. 2005. *Soft-tissue vessels and cellular preservation in Tyrannosaurus rex*. *Science* 307:1952.

Summary. Parts of a dinosaur femur were demineralized in a weak acid, removing the hard bony tissue and leaving a mass of soft tissue containing apparent blood vessels. The vessels are soft and pliable, and in some cases retain their shape after repeated stretching. The vessels were compared with similarly prepared vessels from ostrich bone, and the two types of vessels were virtually indistinguishable. The vessels contain small round objects resembling cells with nuclei. Further analysis is needed to determine the possibility of preservation of molecular and subcellular components. The *Tyrannosaurus rex* specimen was collected from the Hell Creek Formation of Montana.

Comment. This is an extraordinary discovery that challenges our views of the rate of breakdown of organic molecules and opens the possibility that scientists may be able to recover organic molecules from other well-preserved fossils. Creationists will naturally wonder if this discovery is evidence of a young age of the fossils and evidence against long ages. However, it would be wise to be cautious when considering such claims. If organic molecules can be preserved for thousands of years inside fossil bone, as seems to be the case, we do not know how much longer they might remain preserved if the bones are undisturbed.